Claims

[c1]   1. An optical lens, comprising:

a barrel, having a light incident opening and a receiving space, wherein the light incident opening is successive to the receiving space;

a first lens, arranged in the receiving space and having a first annular conical surface that is located at an outer rim of the first lens, wherein the light incident opening exposes a portion of the first lens; and

a second lens, arranged in the receiving space and having a second annular conical surface that is located at an outer rim of the second lens, wherein the second lens is embedded with the first lens in a manner that the first annular conical surface is embedded with the second annular conical surface.

[c2]   2. The optical lens of claim 1, wherein the first annular conical surface of the first lens comprises a concave and the second annular conical surface of the second lens comprises a convex, wherein the concave is embedded with the convex.

[c3]   3. The optical lens of claim 1, wherein the first annular conical surface of the first lens comprises a convex and

the second annular conical surface of the second lens comprises a concave, wherein the convex is embedded with the concave.

[c4]   4. The optical lens of claim 1, further comprising a fixed plate arranged within the receiving space against the second lens, wherein a light outgoing opening is further formed on the fixed plate to expose a portion of the second lens.

[c5]   5. The optical lens of claim 4, further comprising an image capturing device arranged on a light path behind the fixed plate.

[c6]   6. The optical lens of claim 5, further comprising a sensor covering plate for covering onto the image capturing device arranged on a light path behind the fixed plate, wherein the sensor covering plate is arranged on a light path between the fixed plate and the image capturing device.

[c7]   7. The optical lens of claim 5, further comprising a filter arranged on a light path between the fixed plate and the image capturing device.

[c8]   8. The optical lens of claim 1, wherein materials of the first lens and the second lens are glass.

[c9]   9. The optical lens of claim 1, wherein materials of the first lens and the second lens are plastic.

[c10]   10. An lens system, comprising:
a first lens having a first annular conical surface that is located at an outer rim of the first lens; and
a second lens having a second annular conical surface that is located at an outer rim of the second lens, wherein the second lens is embedded with the first lens in a manner that the first annular conical surface is embedded with the second annular conical surface.

[c11]   11. The optical system of claim 10, wherein materials of the first lens and the second lens are glass.

[c12]   12.The optical system of claim 10, wherein materials of the first lens and the second lens are plastic.

[c13]   13. A design method for an optical lens, comprising:
providing a computer analysis model for the optical lens, wherein the computer analysis model for the optical lens comprises at least a plurality of lenses and an image capturing device that is located on a light path behind the lenses;
projecting a reference image to the lenses to form an image on the image capturing device;
analyzing the image to obtain a distribution of a useless

light of the image and deducing a useless light reflection region of the lenses; and

correcting an angle formed by an interface of the lenses and optical axes of the lenses to reduce a light strength of the useless light of the image.

[c14]   14. The design method for the optical lens of claim 13, wherein the interface of the lenses of the computer analysis model is perpendicular to the optical axes of the lens.

[c15]   15. The design method for the optical lens of claim 13, wherein correcting the angle formed by the interface of the lenses and the optical axes of the lenses comprises changing the interface of the lens to annular conical surfaces.

[c16]   16. The design method for the optical lens of claim 13, wherein analyzing the image further comprises comparing the image and the reference image to obtain the useless light of the image.